UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
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OFFICE OF
ECOSYSTEMS, TRIBAL AND
PUBLIC AFFAIRS

July 9, 2012

ALCOM Public Affairs
9480 Pease Avenue, Suite 120
JBER, Alaska 99506

Re: EPA comments on the Draft Environmental Impact Statement for the Alaskan Command's Modernization and Enhancement of Ranges, Airspace, and Training Areas in the Joint Pacific Alaska Range Complex, EPA Project #10-066-DOD.

To Whom It May Concern:

Thank you for the opportunity to review the Draft Environmental Impact Statement for the Alaskan Command's (ALCOM) Modernization and Enhancement of Ranges, Airspace, and Training Areas in the Joint Pacific Alaska Range Complex, Alaska (CEQ # 20120090). We have reviewed the EIS in accordance with our responsibilities under National Environmental Policy Act and Section 309 of the Clean Air Act. Section 309 specifically directs the EPA to review and comment in writing on the environmental impacts associated with all major federal actions as well as the adequacy of the EIS in meeting procedural and public disclosure requirements of NEPA.

We appreciate ALCOM's effort to comprehensively evaluate all twelve actions (six projects and six programmatic actions) identified as appropriate for evaluation in the recently developed Joint Pacific Alaska Range Complex Master Plan. We believe this has added value to the consideration of cumulative impacts and provides for more complete disclosure of impacts for the decision maker as well as the public. However, we note that the complexity of multiple projects and actions without identification of preferred alternatives makes the review quite challenging.

Because preferred alternatives are not identified, and because the potential intensity of impacts varies greatly from alternative to alternative, we have rated the impacts associated each alternative individually. Please see the table below identifying our ratings and rating justification. Definitions of our ratings are attached.

Action	Rating	Justification
FOX 3 MOA Expansion and New Paxson Military Operating Area (MOA)	EO	Potentially serious impacts to noise receptors, land use, recreation and other socioeconomic resources, aviation and aviation safety; adverse impacts to air quality, biological resources, access, subsistence and environmental justice.
Realistic Live Ordnance Delivery	EO	Potentially serious impacts to noise receptors, land use, recreation and other socioeconomic resources, aviation and aviation safety.
Battle Area Complex Restricted Area	EC	Adverse impacts to aviation, noise receptors

Expand Restricted Area R-2205	EC	Potentially moderate impacts to noise, air and land use, hazardous waste, and multiple socioeconomic resources
Night Joint Training	LO	No or minimal adverse impacts to resources
Unmanned Aerial Vehicle Access	EC	Potentially serious impacts to airspace use and aviation safety
Enhanced Ground Maneuver Space	EO	Potentially serious impacts to aquatic, physical, and biological resources
Tanana Flats Training Area Roadway Access	EO	Potentially serious impacts to aquatic, physical, and biological resources
Joint Air-Ground Integration Complex	EC	Potentially serious impacts to physical and biological resources
Intermediate Staging Bases	EC	Potentially serious impacts to physical and biological resources
Missile Live Fire for AIM-9 and AIM-120 in the Gulf of Alaska	LO	No or minimal adverse impacts to resources
Joint Precision Airdrop System Drop Zones	EC	Potentially serious impacts to socioeconomic resources

We have given the EIS an overall adequacy rating of "2" (Insufficient Information). Generally our impacts (alpha) rating is based on our concerns regarding potential impacts to water quality and aquatic habitats, noise receptors, air quality, subsistence, and other socioeconomic factors, such as safety and other adverse impacts to the private aviation community. Our adequacy rating is based on the concerns we have with the criteria used for the "subsistence community" analysis, additional information needed for direct and cumulative impacts analysis, and lack of use of monitoring data from previous projects (e.g. 1997 Alaska MOA EIS) to help inform this EIS.

We recognize the need for the transition to different training activities to fully meet the training and testing requirements for forces and activities in and near Alaska. We also recognize, however, that an increase and expansion of military training activities and areas will result in additional impacts to surrounding communities, users, and resources. We offer the following recommendations to avoid, minimize and mitigate adverse impacts.

Potential Impacts

We recommend that ALCOM continue to work closely with potentially impacted stakeholders (general and commercial aviation owners and groups, tribal governments, land owners, subsistence and sport hunting groups and resource managers) to identify ways to further avoid, minimize, and mitigate adverse impacts, particularly in the resource areas of aviation safety and subsistence. We also specifically recommend that ALCOM work closely with our agency, as well as the Alaska Department of Conservation, to further minimize potential impacts to physical and biological resources from air emissions and noise, the generation of hazardous wastes, and discharges into waters of the U.S.

Discharges and Hazardous Wastes

We are particularly concerned about possible discharge of live munitions into aquatic environments. Depending on the constituents of the munitions, adverse and potentially lethal impacts, such as those

seen at Joint Base Elmendorf-Richardson Eagle River Flats, could occur. We recommend that for required live firing training, every effort be made to discharge munitions that do not contain white phosphorus or other constituents that could cause increased mortality in waterfowl similar to what was occurring at Eagle River Flats. Wastewater discharges associated with construction stormwater are included in the discussions of several proposed actions. There does not appear to be discussion of the discharge of munitions, which are also regulated under the National Pollutant Discharge Elimination System. This permit program is scheduled to be transferred from the EPA to the State of Alaska on October 31, 2012, as part of the Phase IV transfer of the Alaska Pollutant Discharge Elimination System. For more information about program transfer, please see the Alaska Pollutant Discharge Elimination System website at http://dec.alaska.gov/water/APDES/phaseIVextention.html.

We also recommend that the final EIS include, as applicable, a discussion of Spill Prevention, Control and Countermeasure Plans and Facility Response Plans, as required by the Clean Water Act and the Oil Pollution Act of 1990. Finally, we recommend that the final EIS provide detailed information regarding the anticipated types of hazardous wastes that will be generated as part of the proposed action, how the wastes will be managed, and the plans for disposal in accordance with federal, state and local requirements. The EPA regulates hazardous wastes under Subtitle C of the Resource Conservation and Recovery Act.

Subsistence

To address impacts to subsistence, we recommend further coordination with the Alaska Department of Fish and Game Subsistence Division and Board of Fisheries as well as Federal Subsistence Board to determine if additional measures (such as timing windows, higher minimum altitude) would substantially reduce the potential impacts identified in the EIS, particularly from FOX 3 MOA Expansion, New Paxson MOA and Realistic Live Ordnance Delivery proposed actions.

Aviation

To address the potentially serious impacts to aviation and aviation safety, we encourage you to continue working with commercial and general aviation groups as well as individual owners and operators, and the Airports Divisions within ADOT and FAA to determine if additional avoidance, minimization, or mitigation measures can further reduce impacts, particularly to aviation safety. As identified in the EIS, general and small commercial aviation are critical modes of transportation for communities in rural Alaska, including those identified in the project area. For residents in these communities and in more remote locations, effective communication regarding training activities is often difficult. If information regarding the occurrence and scheduling of such activities is not received by the private operators, or is not timely, safety can be seriously compromised. Therefore, we recommend that work be done to ensure the current effectiveness of the existing Special Use Airspace Information Service that is currently used to inform civilian pilots when MOA and restricted areas are activated. If this information is currently available it should be included in the final EIS. If it is not, we recommend that a study be undertaken to determine its effectiveness. If deficiencies are identified, we recommend that improvements be implemented, preferably before the signing of the Record of Decision.

Cumulative Effects

We recommend that coordination with the Federal Energy Regulatory Commission occur to ensure that the most current proposed activities associated with the Susitna-Watana Hydroelectric Project are considered in the cumulative impacts analysis in the final EIS.

Adequacy

To improve readability, we recommend a detailed table outlining alternatives for each proposed action and a detailed discussion regarding each alternative by resource. We recognize that such a table with "averaged" impacts is currently included in the Executive Summary, but it is important that the EIS present the "sharp contrast" between alternatives. While the narrative in the effects section does this to a certain extent, a detailed table would be helpful to readers to visually present the information.

We also expect that the final EIS will contain much greater detail regarding aspects such as the locations of facilities, access roads, numbers of aircraft, and estimated acres of impact, as well as discussion of the potential impacts associated with proposed structures and project activities. We are particularly interested in the quality, acreage and functions of waters of the U.S. that will be impacted by the discharge of dredged or fill material, and wastewater discharges. We request that for specific proposals where it is appropriate or feasible, a draft Clean Water Act 404(b)(1) analysis be drafted and included as an appendix to the final EIS. By including this analysis for project-specific EISs, permitting decisions under Section 404 can be coordinated with other agency decisions, including the consideration of whether the proposed discharge would represent the least environmentally damaging practicable alternative.

Currently the criteria being used for the subsistence community analysis appears to be based on an arbitrary racial composition, and it seems to discount the common practice of rural Alaskan residents to rely on subsistence resources. Other factors that contribute to this reliance are proximity to food stores and U.S. Post Offices. We recommend that these additional components be considered for the subsistence analysis in the final EIS. If the final EIS relies on the current criteria, we recommend that the document include a discussion of the basis for these criteria.

Mitigation and Monitoring

We appreciate the inclusion of Appendix K, Mitigations, Best Management Practices, and Standard Operating Procedures. We request that the final EIS include avoidance and mitigation measures (e.g. restrictions to avoid lambing, buffers along Wild and Scenic corridors) identified by the Bureau of Land Management, Alaska Department of Fish and Game, and other agencies responsible for the protection and conservation of public resources in previous and more recent correspondence in response to scoping and review of the draft EIS.

We also recommend that additional information be included in the final EIS to clearly distinguish between those mitigation measures that ALCOM has the authority to implement, and those which it cannot and thus, would require the involvement of other agencies to execute them. We believe this information would be consistent with CEQ's Guidance, *Appropriate Use of Mitigation and Monitoring and Appropriate Use of Findings of No Significant Impact*, issued in January 2011 (http://ceq.hss.doe.gov/current_developments/docs/Mitigation_and_Monitoring_Guidance_14Jan2011.pdf). Finally, and also in line with the mitigation guidance, we recommend that a draft adaptive management plan be identified and included in the final EIS to monitor and ensure the success of future mitigation efforts.

Again, we appreciate the opportunity to offer comments on the draft EIS and look forward to working with ALCOM on addressing the issues we have identified for the Final EIS. Please contact me at (206) 553-1601 or by electronic mail at reichgott.christine@epa.gov, or Jennifer Curtis of my staff in Anchorage at (907) 271-6324 or curtis.jennifer@epa.gov, with any questions you have regarding our comments.

Sincerely,

Christine B. Reichgott, Manager
Environmental Review and Sediments Management Unit

Enclosure

U.S. Environmental Protection Agency Rating System for Draft Environmental Impact Statements Definitions and Follow-Up Action*

Environmental Impact of the Action

LO – Lack of Objections

The U.S. Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC – Environmental Concerns

EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

EO – Environmental Objections

EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU – Environmentally Unsatisfactory

EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1 – Adequate

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2 – Insufficient Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

Category 3 – Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment. February, 1987.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

December 14, 2015

Mark Petersen
HQ PACAF/PA
25 E Street, Suite G-108
Joint Base Pearl Harbor-Hickam, Hawaii 96853

Subject: Revised Draft Environmental Impact Statement (RDEIS) for Divert Activities and Exercises, Commonwealth of the Northern Mariana Islands (CEQ 20150289)

Dear Mr. Petersen:

The U.S. Environmental Protection Agency (EPA) has reviewed the above-referenced document pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act. Our detailed comments are enclosed.

The Revised Draft Environmental Statement (RDEIS) updates the 2012 DEIS with modified alternatives for facility construction at Saipan International Airport and/or Tinian International Airport to support a combination of aircraft and support personnel for divert operations, periodic exercises, and humanitarian assistance/disaster relief. The Air Force has not identified a preferred alternative in the RDEIS. Therefore, in accordance with EPA's *Policy and Procedures for the Review of Federal Actions Impacting the Environment*, we are rating individual alternatives evaluated in the RDEIS.

Through a comment letter to the Air Force on July 26, 2012, EPA rated the 2012 DEIS Preferred Alternative 1 as *Environmental Objections – Insufficient Information* (EO-2) (see enclosed "Summary of Rating Definitions") due to severe noise impacts predicted for residents on Saipan for 8 weeks per year. The alternatives in the RDEIS no longer include fighter jet aircraft as part of the training exercises and, as a result, noise levels would be much reduced. While this alleviates our noise objections, EPA is concerned that the revised analysis uses a new metric that averages the noise that would be generated during 8 weeks of training over the course of a year, artificially reducing predicted noise levels and presenting noise impacts in a manner that is not consistent with how the noise would be experienced by the public. Because of this, we are rating Alternative 1 in the RDEIS as *Environmental Concerns – Insufficient Information* (EC-2). We strongly recommend that the Air Force reassess noise impacts using the noise metric and methodology that was previously used in the 2012 DEIS in order to clearly disclose project noise levels in the Revised Final EIS as they would be experienced by residents for 8 weeks/year.

We have rated the Tinian alternatives (Alternatives 2 and 3) in the RDEIS as *Environmental Objections – Insufficient Information* (EO-2), based on potentially significant impacts to the drinking water system that should be avoided to adequately protect the environment. The RDEIS does not sufficiently evaluate the impacts of the project on the drinking water utility and the amount of water available from the CUC system on Tinian may not be sufficient to meet the construction-phase demand for the project. The CUC is under a Stipulated Order to bring its drinking water system into compliance with the Safe

Drinking Water Act and is in "severe distress" financially, according to a recent CUC quarterly report. If the military action would place an additional financial burden on CUC, this would be a significant impact to the utility and could compromise the public's access to drinking water. The Marine Corps recently published the CNMI Joint Military Training (CJMT) DEIS (April 2015) and is now conducting supplemental analyses of impacts of that project on the Tinian drinking water system. We recommend that the Air Force consult the technical appendices of the CJMT DEIS, and work closely with the Marine Corps, to better assess the construction-phase impacts of Divert Activities and Exercises on the drinking water system. We also recommend close coordination of construction scheduling with the Marine Corps, if a Tinian alternative is selected, to ensure that the capacity of the drinking water system is not exceeded and access to drinking water by the local population is not affected.

We appreciate the opportunity to review this Revised DEIS and look forward to working with the Air Force to address the issues outlined above and in the enclosed Detailed Comments. If you have any questions, please refer staff to Karen Vitulano, lead reviewer of the RDEIS, at (415) 947-4178, or to Kathleen Goforth, Manager of the Environmental Review Section, at 415-972-3521. Please send a copy of the Final Revised EIS to this office (mail code ENF-4-2) when it is electronically filed with our Washington, D.C. office.

Sincerely,

Kathleen H. Johnson, Director
Enforcement Division

Enclosure: Summary of EPA Rating Definitions
EPA's Detailed Comments

cc: John Warner, Federal Aviation Administration
Sherri Eng, MARFORPAC
Wesley M. Bogdan, CNMI Office of the Lt. Governor
Frank M. Rabauliman, CNMI Bureau of Environmental and Coastal Quality (BECQ)
Fran Castro, BECQ Division of Coastal Resources Management
John Riegel, Commonwealth Utilities Corporation (CUC)

SUMMARY OF EPA RATING DEFINITIONS*

This rating system was developed as a means to summarize the U.S. Environmental Protection Agency's (EPA) level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the Environmental Impact Statement (EIS).

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

ADEQUACY OF THE IMPACT STATEMENT

Category "1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category "2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category "3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, Policy and Procedures for the Review of Federal Actions Impacting the Environment.

EPA DETAILED COMMENTS ON DIVERT ACTIVITIES AND EXERCISES, COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS REVISED DRAFT ENVIRONMENTAL IMPACT STATEMENT, DECEMBER 14, 2015

Impacts to drinking water

While not formally designated as a Sole Source Aquifer under the Safe Drinking Water Act, groundwater is the sole source of drinking water on Tinian and meets the definition of a sole or principal source aquifer[1]. The Commonwealth Utilities Corporation (CUC) supplies drinking water to the island via a single public water well. Given the limited source of drinking water available on Tinian, it is critical that estimates of impacts to available drinking water be fully analyzed, disclosed and mitigated. The RDEIS for the Divert Activities and Exercises, Commonwealth of the Northern Mariana Islands (Divert Project) does not sufficiently assess the Proposed Action's impacts on the CUC for the Tinian Alternatives, nor does it include a complete estimate of construction-phase water demand.

The water demand identified in the RDEIS for the construction phase includes only the amount of water that would be used for dust suppression. Other construction water use, such as concrete mixing, rinsing new water pipes, hydrotesting new water storage tanks, etc. is not included. In addition, the water demand from the 500-750 construction workers is not analyzed, and it is unclear if this estimated number of workers includes dependents. If it does not, the estimated water demand would be even higher, since, as the RDEIS acknowledges, Tinian does not have the construction workforce needed and it is assumed that 85% of these workers would be from off-island (p. 4-176, 4-117). The estimated water demand for dust suppression alone is 51,500 gallons per day (gpd) for 3 years for the North option (32,500 gpd for the South option). Consumption by the construction workforce would be a substantial addition to this construction-phase estimate. The RDEIS estimates the water consumption demand during the implementation phase at 98 gpd per person, which, if applied to the construction workforce would calculate at an additional 49,000 - 73,500 gpd water demand. The RDEIS identifies the amount of water Tinian is able to generate at 1.26 million gallons per day, which appears to be a high estimate averaging the generation for wet and dry seasons. Since, as the RDEIS acknowledges, water supply issues are intensified during the dry season (p. 3-110), it would be more conservative to utilize the dry season estimate for the analysis.

The RDEIS does not calculate the amount of water that would be available to be pumped from the CUC system therefore it is unclear whether the CUC could accommodate the water demand. We note that the CJMT DEIS calculated, using the wet/dry season average pump rate, that there would be 50,862 gpd available to the Tinian population after losses in the distribution system (CJMT DEIS p. 4-414). The CJMT DEIS utilized a water loss or "unaccounted for water" (UFW) rate of 75% for this calculation. The Divert RDEIS estimates the unaccounted for water (UFW) in the CUC distribution system at 50%, referencing a 2011 National Renewable Energy Laboratory (NREL) Report, which may not be the most updated estimate. The CUC Drinking Water and Wastewater Master Plan estimates the UFW for Tinian to be 74%.

If the 50,862 gpd value of available water is accurate, it appears that the construction-phase water demand for Divert would substantially exceed the amount potentially available from the CUC system. This would counter the conclusion in the RDEIS that adverse impacts from the Divert Project would be

[1] EPA defines a sole or principal source aquifer as an aquifer that supplies at least 50 percent of the drinking water consumed in the area overlying the aquifer. These areas may have no alternative drinking water source(s) that could physically, legally and economically supply all those who depend on the aquifer for drinking water.

negligible on the water supply (p. 4-149). Additionally, the CJMT DEIS, Appendix P (p. 2-1) notes that three of the four pumps serving the Tinian drinking water well are operating almost constantly, and because one pump is kept on standby for maintenance purposes, the well is operating near full capacity. If this is correct, the CUC public water well may not realistically be able to support the projected increase in water use when it is already operating at near capacity. The CUC is under a Stipulated Order to bring its drinking water system, primarily on Saipan, into compliance with the Safe Drinking Water Act and to provide comprehensive planning for current and future infrastructure needs with regard to groundwater protection and drinking water supplies on Tinian. According to a recent CUC quarterly progress report[2], the utility continues to struggle financially and is in "severe distress". CUC also recently reported that it currently lacks approximately 20 percent of the manpower needed to successfully operate and maintain its facilities[3].

The cumulative impacts to the drinking water utility would be even greater. The cumulative impact assessment does acknowledge that the combination of the Divert Project with other construction projects, particularly the CJMT proposal, the large hotel resorts, and the new homestead development, would place much greater demands on utilities because of the increased worker population and level of construction (p. 5-37). The RDEIS notes the pre-existing potable water utility deficiencies that can contribute to potential impacts but states only that the Air Force would coordinate with the CUC to ensure water supply is sufficient (p. 5-37). The Air Force proposes no mitigation for its impact on the CUC system. If the proposed military action could place an additional financial burden on CUC, potentially compromising the public's access to drinking water, EPA believes this would be a significant impact.

Recommendation: Quantify the full construction-phase demand for all alternatives. Revise the analysis to use the dry season estimate for the amount of water the CUC system on Tinian can generate, and explain or revise the UFW value used.

Discuss the capacity of the water system and limitations of the CUC system regarding ability to pump and amount of manpower available.

If the construction phase would place an additional financial burden on CUC, potentially compromising the public's access to drinking water, identify those significant impacts on the CUC utility for the Tinian alternatives.

Identify specific mitigation that the Air Force would implement to reduce impacts to the drinking water system. Potential mitigation could include assistance in reducing the high UFW in the CUC system.

In the Revised Final EIS (RFEIS), identify specific measures to coordinate with the Marine Corps on their CJMT supplemental analysis of impacts to the CUC system to ensure any cumulative water demand is considered and construction timelines are scheduled to minimize simultaneous water demand on the CUC system, if applicable.

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[2] STIPULATED ORDER NO. 1; Item 69, Quarterly Progress Report No. 25, January 29, 2015 - April 28, 2015. Submitted to EPA by Alan W. Fletcher, Executive Director, Commonwealth Utilities Corporation, on April 27, 2015.
[3] *Draft Groundwater Management and Protection Plan*, Commonwealth of the Northern Mariana Islands, Prepared for Commonwealth Utilities Corporation, Dueñas, Camacho & Associates and CH2M, May 2015

Noise Impacts

Impact assessment methodology

EPA had raised environmental objections regarding the very high noise levels predicted under the original 2012 DEIS's Preferred Alternative on Saipan, especially under the medium and high scenarios which would have subjected over 11,000 residents to noise levels considered incompatible with residential land use. The high scenario would have exposed some residents to noise levels above 80 A-weighted decibels (dBA) which can cause hearing loss. In our comments, EPA requested an evaluation as to whether an alternative that would operate under only the low scenario (no fighter jets) would meet the project purpose and need. We are pleased that for the revised Proposed Action, the Air Force is no longer including fighter jet aircraft as part of the training exercises. This change is substantial enough to result in much reduced noise levels. However, the decision to alter the noise methodology used to assess and disclose noise impacts in the RDEIS is the basis for continuing environmental concerns because the updated methodology generates artificially low noise estimates which are incongruent with the manner in which humans experience noise. The conclusion that impacts are less than significant was based on this methodology and EPA is concerned that impacts may result that are not disclosed in the RDEIS.

In the RDEIS, the Air Force has changed the primary metric used to express noise that would occur during the Proposed Action's 8-weeks of training from the Average Busy Day (ABD), to the Average Annual Day (AAD). AAD was calculated by dividing the total number of aircraft operations that are conducted during the 8-week training period by 365 days to obtain an average number of operations per day. The AAD results were used to evaluate significance for noise (p. 4-4). EPA cautioned strongly against such a methodology, when it was suggested by the Air Force during a noise-related conference call with EPA on August 2, 2012, because it would not represent how noise is actually experienced by human receptors. The RDEIS states that the AAD noise contours were added to maintain noise analysis consistency across USAF EIS documents and since the baseline noise analysis was estimated using 365 days per year, noise from proposed military aircraft operations was also estimated using 365 days per year to be able to compare noise impacts directly to the baseline (p. 3-1). When EPA identified the Day-Night Average Sound Level, DNL, as the most appropriate measure to describe cumulative noise exposure during an average annual day in its "Levels" document[4], it was based on several considerations, including the applicability of the measure "to the evaluation of pervasive long-term noise in various defined areas and under various conditions over long periods of time", as well as the close correlation of the measure "with known effects of the noise environment on the individual and the public". The altered use of the cumulative noise metric, developed by the Air Force in this analysis, is inconsistent with these considerations and does not sufficiently assess and disclose shorter term noise exposures to the public.

While the RDEIS includes the ABD noise contour map and one paragraph discussing it, the RDEIS includes no information regarding land use or population receptors within noise contours. The 2012 Divert Project DEIS "low scenario" analysis indicated that over 1,200 acres of off-airport property for the Saipan Alternative would be incompatible with residential land use, with almost 200 of these acres in the higher 70-74 dBA contour, during the 8-week training exercises. For Tinian, 400 acres would be

[4] "Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety," U. S. EPA Report No. 550/9-74-004, September 1974

incompatible, with 73 acres in the 70-74 dB contour (DEIS p. 4-20). We understand this may not represent the revised Proposed Action, but the Air Force had suggested consulting this analysis in response to our requests for additional information regarding the noise analysis[5].

The AAD metric was also used in the assessment of both land use and environmental justice impacts, which influences the impact assessment conclusions presented in the RDEIS for these analyses.

> *Recommendation:* We strongly recommend that the AAD metric be removed from the RFEIS and that the Air Force use the ABD metric for the noise impact assessment, as it did in the 2012 Divert DEIS.
>
> Identify representative points of interest, population receptors, and acres exposed to ABD project noise levels and compare with baseline conditions.
>
> Update the land use and environmental justice analyses to include an estimate of noise levels using the ABD metric.

Disclosing noise impacts to quiet rural environments

EPA generally accepts the use of 65 dBA DNL as appropriate for a significance threshold for noise impacts since this corresponds with residential land use compatibility. However, in very quiet existing environments, especially the rural atmosphere on Tinian, the amount of noise increase should also be considered when assessing noise impacts. The RDEIS identifies baseline noise levels at noise-sensitive receptors around Tinian airport as less than 45 dBA (p. 3-92). (We note that the CJMT DEIS identifies some residential locations as higher than 45: Marpo Heights at 45.4 dBA, and Northeast of Marpo Heights at 48.5 dBA). For this quiet setting, a change of exposure analysis is helpful, along with a discussion that provides meaningful information to the public as to how the project will affect their lived noise environment. Because no change of noise exposure data is provided, there is no indication of the extent that Tinians will experience a degradation of their noise environment. The Federal Interagency Committee on Noise (FICON) Technical Subgroup characterized a 3 dB increase in noise as "a large change" in the level of noise exposure when the existing condition is below 65 dB, and noted that this increase can be perceived by people as a degradation of their noise environment[6]. Because decibels are on a logarithmic scale, an increase of 10 dBs represents a subjective doubling of loudness[7]. The RDEIS should attempt to disclose the change in noise environment that residents would experience during training exercises in a meaningful way.

> *Recommendations*: Provide a change of exposure analysis for residents for the Saipan and Tinian Alternatives. Discuss how the increases in noise that would occur during the 8-week training period would be perceived by residents (i.e. whether it would represent a doubling or greater increase in loudness, etc.).

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[5] Telephone conversation between Karen Vitulano, USEPA, and Mark Petersen, USAF, November 10, 2015

[6] Federal Interagency Committee on Noise (FICON), August 1992. *Federal Agency Review of Selected Airport Noise Analysis Issues*. p. 3-5. Available: http://www.fican.org/pdf/nai-8-92.pdf

[7] ibid

Project interface with CNMI Joint Military Training (CJMT) not explained
The Tinian Alternatives in the RDEIS have elements that are identical with components of the CNMI Joint Military Training (CJMT) action, which is also undergoing NEPA review. Both projects propose improvements at the Tinian airport, including fuel tanks, cargo pad, access roads, aircraft parking apron/ramp, and military taxiways. For the Tinian Alternative North option, these facilities are located in the same locations. Both projects also propose fuel tanks at the Port of Tinian. The RDEIS does not discuss how these two projects will interface, whether they would be shared spaces or if it's possible that these projects would both occur in different locations (e.g. both north and south areas of Tinian airport being developed). Additionally, both the Divert Project and the CJMT EISs state that their construction workforces would likely be housed at the Tinian Dynasty Hotel and Casino, which would not appear to support both workforces simultaneously. Based on discussions with the Air Force and Marines, we understand if the Air Force selects the Tinian Alternative North option, it is likely that only one project's elements would be constructed at the airport, however this is not explained to the public in the RDEIS.

> *Recommendation:* Explain how the Marines and Air Force Proposed Actions at Tinian's airport and seaport would interface. If there is the possibility that both projects would proceed with construction at Tinian airport, identify the Divert project schedule, if/how it would overlap with the CJMT construction schedule, and how housing needs and utility demands would be accommodated.

Port Improvements as a Connected Action
The Proposed Action involves the transfer of large amount of fuel and bulk fuel storage at the Ports of Tinian or Saipan. For the Tinian and Hybrid Alternatives, the Port of Tinian would be used, however the RDEIS states that the Port of Tinian is currently in disrepair and has a limited capability to accept fuel shipments at the port (p. 3-113). We are aware that the harbor has no fixed shore-side cranes or lighting, and two finger piers west of the main wharf are in complete disrepair and unusable. The rehabilitation of the Tinian pier appears to be vital to the implementation of this project for the Tinian alternatives. Unless the action can proceed using Tinian Pier in its current deteriorated state, rehabilitation of the pier appears to be a connected action (40 CFR 1508.25(a)1(ii)).

> *Recommendation:* Discuss whether the project could proceed without the rehabilitation of the Tinian Pier and, if it could not, evaluate the environmental impacts from rehabilitation of the pier as a connected action in the RFEIS.

Solid Waste
The document presents no definitive proposal for the final disposition of solid waste for the Tinian and Hybrid Alternatives. The RDEIS states only that contractors hired for the various construction projects would be responsible for the removal and disposal of their construction wastes generated on site (p. 4-150) and because there is a lack of municipal solid waste facilities on Tinian, construction debris would have to be collected and transported off the island using commercial solid waste haulers and commercial barges or ships until a permitted municipal solid waste facility is constructed (p. 4-151). There is no commitment to recycling or composting the waste, as required by Executive Order 13693 and DoD Policy, and it is not clear if the amount of green waste from the clearing of over 82 acres of Tangantangan Ironwood scrub and forest vegetation on Tinian is included in the construction waste totals (p. 4-71). Composting facilities may be an option for the green waste, but that does not appear to have been explored. The Marine Corps is proposing to process all green waste for reuse on island, e.g., as mulch and compost for their future actions on Tinian.

There are limitations to the proper disposal of solid waste at nearby landfills. There are no RCRA compliant solid waste landfills on Tinian. The Marpi landfill on Saipan has only one landfill cell in operation and it is full. The Department of the Navy has had discussions with EPA and the CNMI government about utilizing the Marpi landfill for CJMT waste; however, the Marpi landfill would require the opening and construction of new cells for which the CNMI government does not have complete funding. The landfills on Guam also have limitations. Layon is the only permitted landfill on Guam and does not accept either green waste or construction and demolition (C&D) debris, including asbestos containing material that could be part of the C&D debris. The compliance status of the Navy Base landfill on Guam, which is not currently permitted, is uncertain, and the Anderson Air Force Base landfill is undergoing closure.

Recommendation: Identify how the management of solid waste will occur under the Proposed Action and disclose the impacts in the RFEIS. If negotiations are underway to secure a disposal site, provide an update in the RFEIS. Construction of the project should not commence unless there is a compliant landfill capable of accepting project waste.

The RFEIS should include a commitment to follow DoD's Integrated (Non-Hazardous) Solid Waste Management Policy. We recommend a solid waste diversion plan and a green waste management plan be developed, and that the Air Force process all green waste for reuse/composting on the island where it is generated.

Hazardous Waste

The RDEIS provides no information regarding the final disposition of hazardous waste generated from the project, stating only that storage, handling, and disposal would be the responsibility of the contractors (p. 4-124, 4-129). We are not aware of hazardous waste haulers on Tinian. Guam does not have any permitted commercial or military hazardous waste disposal facilities. For temporary storage on Guam, it is our understanding that the Air Force would need to obtain written approval from the Guam EPA Administrator prior to transport to Guam.

The RDEIS states that the Proposed Action would develop and implement a Spill Prevention, Control and Countermeasures (SPCC) Plan (p. 4-58). Based on the proposed volumes and activities, Facility Response Planning[8] is also applicable. Both the SPCC Plan and Facility Response Plan (FRP) would need to be in place and fully certified by a professional engineer and ready for full implementation at the time fuel is first placed into any tankage.

Recommendations: Clarify how hazardous wastes would be managed, stored and disposed in accordance with the Resource Conservation and Recovery Act (RCRA) and how transportation of hazardous materials would meet the requirements of RCRA and the U.S. DOT, as appropriate.

Identify the requirement for FRP in the RFEIS. EPA is available to provide technical support if needed to ensure SPCC and FRP requirements are met. Please contact Pete Reich of EPA Region 9's Oil Program at 415-972-3052 with any questions. EPA would inspect the operations for full compliance shortly after startup.

[8] See http://www2.epa.gov/oil-spills-prevention-and-preparedness-regulations/facility-response-plan-frp-overview

Use of Fighter Aircraft evaluated in other NEPA documents

The project description in the RDEIS has been changed to eliminate fighter aircraft from proposed exercises (p. 2-2). However, the RDEIS states that a limited number of scheduled joint military training activities and exercises would occur, as described and analyzed in the Mariana Islands Range Complex (MIRC) and the Mariana Islands Testing and Training EISs (p. 2-9), and that the analysis in this EIS is limited to the shift of some of the aircraft already operating during these exercises to the airport or airports proposed for improvements (p. 2-8). While the Air Force has confirmed that no fighter jets are included in this action[9], the above statement seems to suggest that fighter aircraft take-offs and landings evaluated in other EISs could utilize the improved airports on more than an emergency basis. The RDEIS states that while the analysis is based on the KC-135, the precise mixture of aircraft during exercises could vary depending upon mission requirements (p. 2-7). Table 4.1-4 indicates that F-16's are part of Alternative 1 at Saipan International Airport (p. 4-5), however the Air Force informed us that this was a data artifact from an emergency landing of one F-16 in 2012.

> *Recommendation:* Clarify in the Revised FEIS whether the airport improvements proposed under the proposed action could enable their use by fighter jets, the impacts of which were evaluated in other NEPA documents. If the proposed action would enable new landings by fighter jets at the improved airports for Divert, their impacts should be evaluated and disclosed in this Revised EIS.

[9] Teleconference between Karen Vitulano, USEPA, and Mark Petersen and other personnel, USAF, November 18, 2015

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

July 26, 2012

Captain Rebecca Heyse
PACAF/PA
25 E Street, Suite G-108
Joint Base Pearl Harbor-Hickam, HI 96853

Subject: Draft Environmental Impact Statement (DEIS), Divert Activities and Exercises, Guam and the Commonwealth of the Northern Mariana Islands (CNMI) (CEQ # 20120177)

Dear Captain Heyse:

The U.S. Environmental Protection Agency (EPA) has reviewed the subject document pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act. Our detailed comments are enclosed.

According to the DEIS, the Air Force proposes to improve an existing airport to support a combination of cargo, fighter, and tanker aircraft and support personnel for use in divert landings, periodic military training exercises, and humanitarian assistance. Alternative 1 evaluates the use of Saipan International Airport and Alternative 2 evaluates the use of Tinian International Airport. Alternative 1 is identified as the Preferred Alternative.

Based on our review, we have rated the DEIS's Preferred Alternative as Environmental Objections – Insufficient Information (EO-2) (see enclosed "Summary of Rating Definitions"). The noise impacts predicted to occur to residents on Saipan for 8 weeks per year are severe[1], with some residents exposed to levels that could put them at risk for potential hearing loss. Despite these findings, the noise impact assessment is minimal, and does not provide supplemental noise analysis (metrics other than the minimum Day-Night Average Sound Level or DNL), nor does it evaluate potential for hearing loss for populations exposed to DNL 80 decibels and above. This appears inconsistent with an applicable DoD internal directive that requires hearing loss risk be estimated for these populations.

The DEIS predicts that 11,095 residents would be periodically exposed to noise levels between DNL 65 and 80 dBA (A-weighted decibels). Land use compatibility guidelines published by the Federal Interagency Committee on Urban Noise (FICUN), an interagency committee – of which Department of Defense was a member – formed to develop Federal policy and guidance on noise, concluded that residential land use is incompatible with noise levels above DNL 65 dB unless measures are taken to achieve additional Noise Level Reduction (NLR). DoD's own policy[2] regarding DoD air installations echoes these guidelines when it states that residential use is discouraged in areas exposed to DNL 65-69 dB and strongly discouraged in areas exposed to DNL 70-74 dB. The fact that the noise impacts would

[1] According to Table 1 of the *Guidelines for Considering Noise in Land Use Planning and Control*, Federal Interagency Committee on Urban Noise, 1980, the noise exposure class for noise levels above DNL 75 dB are classified as "severe exposure".
[2] http://www.dtic.mil/whs/directives/corres/pdf/416557p.pdf

only occur for 8 weeks per year does not eliminate this land use incompatibility. The Preferred Alternative predicts that a sizable portion of Dandan would receive noise levels at DNL 75 dB or above. The DEIS also acknowledges that this noise will disproportionately affect minority and low-income populations, yet there is no evidence that outreach to these communities has occurred. We are also concerned that three schools will receive impacts greater than DNL 70 dB. The DEIS does not discuss noise mitigation, and suggests that it is not clear that noise mitigation is necessary. EPA does not believe that such a conclusion is supported by the DEIS, and recommends that the Air Force reconsider this matter and evaluate possible changes to the preferred alternative or a new alternative that could reduce the noise impacts.

The DEIS implies that a design capability less than that proposed, i.e., operation of the same number of aircraft at a reduced load capacity, would meet the purpose and need for the proposed project. EPA recommends, in addition to an improved noise analysis, that alternatives be explored that would improve the airport to a comparable design capability by reducing the number of planes rather than the load capacity of each plane. We also request an evaluation as to whether an alternative that would operate under only the "low scenario" (no fighter jets) would meet the purpose and need. In all cases, noise mitigation measures should be incorporated into the Proposed Action.

EPA appreciates the opportunity to review this DEIS and would like to work with the Air Force to explore ways to meet the the purpose and need for the action while adequately protecting the health and well-being of the residents of Saipan. We will contact you to discuss plans for completing the NEPA process. In the meantime, if you have any questions, please call me at (415) 972-3843 or have your staff contact Karen Vitulano, the lead reviewer for this project, at 415-947-4178 or vitulano.karen@epa.gov.

Sincerely,

for Enrique Manzanilla, Director
Communities and Ecosystems Division

Enclosure: Summary of EPA Rating Definitions
EPA's Detailed Comments

cc: Gordon Wong, Federal Aviation Administration
Edward M. Deleon Guerrero, Commonwealth Ports Authority
Frank M. Rabauliman, CNMI Division of Environmental Quality
Alan Fletcher, Commonwealth Utilities Corporation

SUMMARY OF EPA RATING DEFINITIONS*

This rating system was developed as a means to summarize the U.S. Environmental Protection Agency's (EPA) level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the Environmental Impact Statement (EIS).

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

ADEQUACY OF THE IMPACT STATEMENT

Category "1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category "2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category "3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, Policy and Procedures for the Review of Federal Actions Impacting the Environment.

EPA DETAILED COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR DIVERT ACTIVITIES AND EXERCISES, GUAM AND THE COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS (CNMI), JULY 26, 2012

Project Description/Alternatives Analysis

The project description and rationale for the alternatives are not clear. The DEIS states that the KC-135 Stratotanker aircraft is being used as the design aircraft for cargo and tanker aircraft in the EIS and that the KC-135 dimensions will be used to develop space requirements for airport facilities and infrastructure under the Proposed Action (p. 2-2). The Proposed Action, whether taking place at Saipan International Airport (GSN)(Alternative 1) or Tinian International Airport (Alternative 2), was devised to accommodate 12 KC-135 aircraft "to meet the purpose and need of the Proposed Action"; however the DEIS does not state why 12 aircraft were chosen or how this number was determined. This number is important because it is used to scale the number of fighter jets that would be used during training (a size ratio of 1 to 2 was assumed for cargo planes to fighter jets, therefore the Proposed Action includes the use of 24 fighter jets) and it is these that are the source of significant noise impacts.

For the analysis of the implementation phase, the DEIS assumes that any mix of joint fighter, cargo, and tanker aircraft, not to exceed the design capabilities of the airport, could be diverted to or exercised from the airport selected. Representative scenarios of possible aircraft mixes are used to analyze potential environmental consequences. The "low scenario" consists of 12 KC-135's, the "medium scenario" of 6 KC-135's and 12 fighter jets, and the "high scenario" consists of 24 fighter jets.

The DEIS also includes 3 runway options for the 2 alternative airport sites: Runway Option A - a runway extension to 10,000 ft (the optimum runway length for the KC-135); Runway Option B - a runway extension less than 10,000 ft; and Runway Option C - no runway extension. The DEIS states that a shorter runway (i.e., no extension) can accommodate KC-135's and "the location could still support divert, exercise, and humanitarian relief activities" but each KC-135 would need to operate at a reduced load capacity (p. 2-2). Thus, according to the DEIS, operating at a reduced load capacity would meet the purpose and need for the project.

> *Recommendation:* The FEIS should explain why 12 KC-135s are needed to meet the purpose and need of the Proposed Action and how this was determined. Discuss the nature of the different scenarios for the reader. For example, explain situations that would require both military training and humanitarian assistance simultaneously at a divert airport (medium scenario).
>
> Since the DEIS indicates that 12 KC-135's operating at a reduced capacity on a shorter runway would meet the purpose and need for the proposed project, it is reasonable to consider whether some lesser number of KC-135s operating at full capacity on a longer runway would also meet the purpose and need. If it would, an alternative with a design capability for fewer KC-135's (and, consequently, fewer fighter jets) should be evaluated in the FEIS. If it would not, the FEIS should explain why.
>
> Additionally, we recommend that the Air Force assess whether an alternative that would not utilize the medium and/or high scenario at Saipan International Airport would meet the purpose and need.

Noise Impacts

Noise analysis

We have significant concerns regarding the noise impacts to residents in Saipan under Preferred Alternative 1, especially under the medium and high scenarios evaluated. The noise analysis under the high scenario indicates that, for an average busy day during the military exercises 8 weeks per year, 11,095 residents would be periodically exposed to noise levels within the 65 to 80 dBA (A-weighted decibels) DNL (Day-Night Average Sound Level) noise contours (p. 4-12). The DEIS states that, according to the U.S. Air Force, Federal Aviation Administration (FAA), and Housing and Urban Development (HUD) criteria, noise-sensitive land uses at or above the 65 dBA DNL contour are considered to be within "areas of high noise exposure" (p. 4-4). EPA believes that it is also important to disclose that, according to Federal Interagency Committee on Urban Noise (FICUN)[3] Guidelines for Considering Noise in Land Use Planning and Control (1980), which were developed by the same agencies as above, noise exposures greater than DNL 65 dB are generally not considered compatible with residential land use[4]. The FICUN Guidelines treat areas above DNL 65 dB as marginally compatible to incompatible with residential land use, depending on the degree of noise level reduction (NLR) provided in affected structures. The FICUN land use compatibility guidelines for noise exposure between DNL 65-70 dB call for building codes to require at least 25 dB outdoor to indoor NLR; and, for exposures between DNL 70-75 dB, at least 30 dB NLR is recommended. FICUN considered noise exposure above DNL 75 dB to be "incompatible" with all residential uses except transient lodging with NLR of at least 35 dB. The DEIS does not discuss the housing structures present on Saipan in relation to noise attenuation potential and whether the current buildings are capable of achieving NLR levels specified above for the indicated noise exposures.

Based on Figure 4.1-4, it appears that, of the over 11,000 residents that would be impacted by 65+ dBA DNL, a large percentage would fall above the 70 dBA DNL noise contour, and some above the 75 and 80 dBA DNL. This is a wide range, and the analysis does not provide a breakdown of population exposed for each noise contour.

Despite the high noise levels predicted, no supplemental noise analysis was performed. Supplemental metrics are useful in characterizing specific events and conveying a clearer understanding of the effects impacted communities can expect on their living and working environments as a result of the Proposed Action. For example, single event analysis is useful in evaluating sleep disturbances. Since, for this project, it is assumed that 30% of the flights will occur at night (p. 4-3, 6, 9), this would be an appropriate noise metric to use. No single event noise levels were identified for the Preferred Alternative 1[5]. Similarly, metrics expressing noise impacts in terms of speech interference are also useful for public disclosure. The analysis in the Marine Corps' West Coast Basing of the F-35B EIS[6] presented data for both indoor speech interference and indoor sleep disturbance for representative

[3] FICUN formed to develop Federal policy and guidance on noise. The committee's membership included the Environmental Protection Agency (EPA), the FAA, the Federal Highway Administration, and the Departments of Defense (DOD), Housing and Urban Development (HUD), and Veterans Affairs (VA).

[4] The FICUN Guidelines note that HUD, DOT and EPA recognize DNL 55 dB as a goal for outdoor noise levels in residential areas for the protection of public health and welfare with an adequate margin of safety.

[5] For Alt 2 on Tinian, the DEIS discloses that the maximum single-event level is estimated to reach 95 dBA SEL at the closest community of Marpo Heights (p. 4-24), which would experience close to the 65 dB DNL noise contour, but no single-event measures for the closest community on Saipan, lying in the DNL 80 dB contour are disclosed.

[6] See http://www.usmcjsfwest.com/Resources/Documents/Final_Volume_I.pdf

residences with windows open and windows closed. The F-35B EIS also identified the number of housing units affected in each noise contour above DNL 65 dB, which is useful for disclosing impacts and expressing the mitigation burden for the soundproofing of dwellings.

The DEIS predicts noise exposures at and above DNL 75 dB, with some above DNL 80 dB, yet there was no analysis to assess the potential for hearing loss. We believe that when noise-sensitive receptors are identified in the 75 dB+ noise contour, risk of hearing loss should be evaluated. DoD policy in "Methodology for Assessing Hearing Loss Risk and Impacts in DoD Environmental Impact Analysis" applies whenever the 80 dB DNL contour extends into populated areas off base and requires that hearing risk loss be estimated for this population.

Recommendations: The noise analysis in the FEIS should be improved. We recommend that the following be included:

- Provide a breakdown of the population that would be exposed in each noise contour. Quantify the number of residents that would be "highly annoyed" as defined in Table 4.1-1 (Feingold data);
- Conduct supplemental noise analysis to disclose indoor speech interference and indoor sleep disturbance[7] for the 8 week training period, such as was performed in the Marine Corps' West Coast Basing of the F-35B EIS. Discuss sleep disturbance results with reference to the World Health Organization's guidance that equivalent sound pressure level should not exceed 30 dBA indoors for continuous noise, and 45 dB SEL for single events if negative effects on sleep are to be avoided[8];
- Estimate potential for hearing loss for noise exposures at DNL 75 dB and above. Provide single event analysis (e.g. SEL metrics) for Alternative 1, as is provided for Alternative 2, and include this information in the hearing loss analysis. Discuss results in terms of the World Health Organization's 120 dB guideline threshold for hearing impairment in children[9]. It may be helpful to discuss the frequency of expected noise from the project in terms of hearing loss. Noise-induced hearing impairment occurs predominantly in the higher frequency range of 3,000–6,000 Hz, with the largest effect at 4,000 Hz[10].
- Quantify the number of dwellings that would fall under each noise contour. Disclose that noise levels above 65 dB are normally considered incompatible with residential land use;
- Discuss the construction materials and methods of housing structures on Saipan in relation to noise attenuation potential and indicate the probable noise level reduction these structures would be capable of achieving.

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[7] The Federal Interagency Committee on Aviation Noise (FICAN) recommends the use of ANSI Standard ANSI S12.9-2008 to Predict Awakenings from Aircraft Noise. See S12.9-2008, *Quantities and Procedures for Description and Measurement of Environmental Sound — Part 6: Methods for Estimation of Awakenings Associated with Outdoor Noise Events Heard in Homes*, 2008

[8] World Health Organization. 1999. *Guidelines for Community Noise*. Available: http://www.who.int/docstore/peh/noise/guidelines2.html

[9] ibid

[10] ibid

Health Impacts from Noise

The DEIS does not discuss the potential health effects from noise. There is increasing evidence that noise impacts have non-auditory health effects. A 2007 review article[11] that summarizes studies from the National Library of Medicine database on the adverse health effects of noise concludes that "*the potential health effects of noise pollution are numerous, pervasive, persistent, and medically and socially significant. Noise produces direct and cumulative adverse effects that impair health and that degrade residential, social, working, and learning environments with corresponding real (economic) and intangible (well-being) losses*". Long-term physical health effects have been linked to noise effects related to sleep disturbances, stress, cardiovascular response, and increased blood pressure. The mental health effects that noise is suspected to cause or contribute to include anxiety, emotional instability, mood changes, increase in social conflicts, neurosis, and psychosis.

> *Recommendation:* Disclose the physical and mental health impacts that have been linked to the project noise levels identified in the FEIS.

Impacts to Children and Schools

Pursuant to Executive Order 13045 - Protection of Children from Environmental Health Risks and Safety Risks, the DEIS concludes that the Proposed Action would not result in disproportionate risks to children from environmental health risks or safety risks; however, because there is no discussion of noise impacts on children's health and learning, this conclusion is not supported.

The DEIS identifies 3 schools that fall into the 70 dB noise contour under the medium and high scenarios for Preferred Alternative 1 (p. 4-7, 4-12). Under baseline conditions, none of these land uses are within the 65 dBA DNL noise contour (p. 3-4). Dandan Elementary School noise would increase from 46 dBA to over 70 dBA, Koblerville Elementary School from 50 dBA to over 70 dBA, and Saipan Southern High School from 49 dBA to over 70 dBA. These are substantial noise increases - decibels are on a logarithmic scale, and an increase of 10 dBs represents a subjective doubling of loudness[12]. Elevated noise levels at schools are of concern because research on the effects of aircraft noise on student learning indicates interference with reading, motivation, language and speech, and memory[13]. These represent acoustical barriers to learning, especially for young children since they are more susceptible than adults to the effects of background noise on spoken communication[14].

Goines and Hagler (2007), in their review article cited above, concluded that children are particularly vulnerable to the effects from noise interference with spoken communication. The inability to comprehend normal speech may lead to a number of personal disabilities, handicaps, and behavioral changes. Children who live in noisy environments have been found to have heightened sympathetic arousal indicated by increased levels of stress-related hormones and elevated resting blood pressure. Noise is assumed to accelerate and intensify the development of latent mental disorders and children may be particularly vulnerable to these effects because they may lack adequate coping mechanisms. The review article concludes that because children are particularly vulnerable to noise induced

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[11] Goines, Lisa RN and Hagler, Louis MD. 2007. "Noise Pollution: A Modern Plague", *Southern Medical Journal*: Volume 100 - Issue 3 - pp 287-294.

[12] Federal Interagency Committee on Noise (FICON), August 1992. *Federal Agency Review of Selected Airport Noise Analysis Issues*. Available: http://www.fican.org/pdf/nai-8-92.pdf

[13] http://www.fican.org/pdf/Effects_aircraft.pdf

[14] ANSI S12.60-2002 American National Standard, *Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools*

abnormalities, they need special protection, and the evidence is strong enough to warrant monitoring programs in schools and elsewhere to protect children from noise exposure.

The DEIS does not identify these impacts to children's health and learning, nor are any mitigation measures identified, as required by 40 CFR 1502.16(h).

> *Recommendations*: Disclose impacts to children including potential health impacts and impacts to learning. Identify possible mitigation measures, including retrofitting impacted schools with appropriate measures to achieve the classroom acoustics standard of the American National Standards Institute (ANSI)[15]. This could include adding insulation, adding a second window pane or replacing windows with better sound attenuation, sealing gaps or leaks in windows and doors, installing baffles in vents and improving the exterior roofing, consistent with radon safety. Indicate whether noise insulation at these schools could achieve the ANSI acoustical performance criteria with the noise levels predicted from the Proposed Action, specifically the requirement that the one-hour average background noise level not exceed 35 dBA in core learning spaces smaller than 20,000 cubic feet and 40 dBA in larger spaces. Identify possible funding sources for this mitigation and the likelihood that mitigation would occur. See comment below on noise mitigation.

Noise mitigation

As mentioned, no mitigation measures for noise are identified despite the very high increases in noise that would occur during 2 months of the year. We understand that there is no existing Department of Defense program that permits appropriated funding for off-base sound attenuation; however, since GSN is a civilian airport, it is eligible to apply for financial assistance from the FAA Part 150 program for noise mitigation. This would require updating the Noise Exposure Maps and the Noise Compatibility Plan, as well as matching funds from the airport. According to the DEIS, the Department of Defense will need to negotiate space for military improvements with the authority running the airport, and any additional costs for construction and ongoing maintenance to the operating authority would be addressed in the mutual use agreement (p. 1-14).

> *Recommendations:* Identify mitigation measures for noise impacts in the FEIS per 40 CFR 1502.16(h). We recommend that the Air Force work with the airport authority to ensure that the mutual use agreement includes sufficient financial contributions from DoD for ongoing maintenance so the authority can afford to pursue FAA Part 150 program funding.

Cumulative Noise Impacts Not Evaluated

The DEIS acknowledges that noise impacts on noise-sensitive receptors during implementation of the preferred alternative would be significant (p. ES-12); however, it does not acknowledge cumulative noise impacts. Table ES-3 on p. ES-22 does not address cumulative noise impacts from implementation of the preferred alternative[16] nor does the text on page 5-9 address cumulative operational noise impacts. Instead, the DEIS states that no cumulative impacts would be expected on the noise environment due to air operations, because the air training operations were analyzed in the MIRC EIS, for which a Record

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[15] ANSI/ASA S12.60-2002 (R2009) American National Standard Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools.

[16] A summary bullet is listed only for the construction phase for Saipan, although a summary bullet is included for both construction and implementation for the Tinian alternative.

of Decision was issued. The MIRC EIS, however, did not include training use of the Saipan International Airport , so the impact assessment for the aircraft operations in the MIRC EIS was for noise receptors on Guam. Noise impact assessments are necessarily localized and must involve the actual receptors that would be impacted under the Proposed Action. Cumulative noise impact assessments evaluate project impacts to these receptors in combination with noise from other past, present and reasonably foreseeable future actions.

> *Recommendation:* Conduct an impact assessment for noise impacts that occur incrementally from the proposed action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions (40 CFR 1508.7).

Noise Impacts and Environmental Justice

The DEIS reveals that Saipan has disproportionately high minority populations and disproportionately high low-income populations in some areas, and that noise impacts would represent "a disproportionate impact on disproportionately high minority populations within District 10" (p. 4-114). It also states that "the USAF will conduct outreach to the potentially impacted communities to ensure they are engaged in the NEPA process and are part of the mitigation development process, if it is determined that mitigation is required" (p. 4-114). It is not clear what criteria the Air Force is using to determine when mitigation is required; nor is it clear whether or not the impacted community has yet been engaged. For outreach to be meaningful, especially to environmental justice communities, it should occur early in the NEPA process.

The DEIS concludes that while disproportionate impacts would occur to minority and low-income populations, this impact would not be significant because it would occur intermittently up to 8 weeks per year. (p. 4-114). This is confusing since the DEIS acknowledges significant noise impacts on page ES-12. Additionally, Council on Environmental Quality's (CEQ) NEPA Regulations state that "significance cannot be avoided by terming an action temporary" (40 CFR 1508.27(b)7). The noise levels predicted in the DEIS are very high and much higher than the significance threshold of DNL 65 dB identified by FICON, in which the Air Force was a member (see footnote #9).

The DEIS identifies "quality of life" in the discussion of sociocultural issues and states that "quality of life relates to the ability of Saipan and Tinian to adequately support the Proposed Action, including how the island's general tranquility, family and community relations, cultural identity, infrastructure, social services, and standards of living could be affected" (p. 3-109). The DEIS does not discuss the impact of noise on the island's general tranquility in its discussion of sociocultural impacts. Based on the noise levels predicted, adverse sociocultural issues may not be negligible as stated in the DEIS (p. 4-113).

> *Recommendations:*
> - If outreach to the community on Saipan has not yet occurred, it should occur as soon as possible, with commenting opportunities provided, before the FEIS is published. Information on noise impacts should be provided in a clear way that is meaningful and understandable to the public. Materials should be translated as appropriate.
> - The FEIS should clarify what criteria the Air Force is using to determine when mitigation is required.
> - The FEIS should acknowledge that noise impacts are significant, in general, and, therefore, significant to the environmental justice community.

- The FEIS should reassess the sociocultural impacts of the proposed project, including impacts on the island's general tranquility.

Infrastructure

Water Supply

The description in the DEIS of the water supply quantity and quality conditions on Saipan is largely accurate with regard to water shortages, the lack of a 24-hour water supply for residents, and high chlorides (saltiness) of the existing groundwater supply. The DEIS states, however, that "it is assumed that both capacity and quality of water at GSN are sufficient to support personnel under both the construction phase and the implementation of the Proposed Action" (p. 3-90). It also characterizes impacts as minor and adverse, noting that they would occur on an already strained system (p. 4-100). Even though the water demand from the project is relatively small, if the BEAR site option is used for billeting and water withdrawal is concentrated in one area (in the vicinity of the intersection of Flame Tree Road and Airport Access Road, p. 2-26), the increase in demand for the 8 weeks per year could have significant localized impacts on the water distribution system in that area. In addition, because of the noted water quality problems, water is deemed too salty for drinking and most residents on Saipan purchase bottled water or groundwater treated by reverse osmosis for drinking.

The DEIS states that a 2-inch water supply line would be required for the proposed hangar, maintenance facility, and billeting areas (p. 4-96). A water line of this size may not be consistent with local codes and could be insufficient to provide flows needed for fire-fighting.

The DEIS estimates the daily increased water demand at approximately 68,000 gpm when the facilities are in use. This is roughly equivalent to one or two of the existing Commonwealth Utility Corporation (CUC) groundwater wells.

> *Recommendation:* The FEIS should evaluate localized impacts to the water supply system for the 8 weeks during which exercises would occur. The Air Force should consider the existing deteriorated system in determining significance of these impacts. We recommend working with the CUC to determine the intake locations that would minimize localized impacts, and whether any additional facilities (additional source capacity and/or storage) are warranted. The commercial lodging option appears likely to reduce localized impacts to the water supply system since it is less centralized. If the BEAR Site is used for billeting, the FEIS should note the probable need for bottled drinking water or treatment of some water via reverse osmosis.
>
> The FEIS should indicate whether a 2-inch water line is consistent with local codes and with military codes. Coordinate with CUC to ensure sizing is sufficient for all water needs.

Wastewater Treatment

The DEIS accurately describes the conditions of the existing wastewater and sewer systems on Saipan, noting that they are not in compliance with their EPA National Pollutant Discharge Elimination System (NPDES) Permit requirements and the Clean Water Act. While capacity at the wastewater treatment plants is not an issue, the flows, although minor, could exacerbate the noncompliant condition. CUC is currently undergoing a Master Planning process which details the necessary upgrades that are needed to bring the plants into compliance.

Recommendation: We recommend coordinating with CUC to determine how the Air Force can utilize the wastewater and sewer system in a manner that is consistent with the proposed draft master plan for Saipan and that will not contribute to noncompliance.

Biological Resources

Biosecurity is a concern for the Preferred Alternative 1 as well as Alternative 2 on Tinian. Increased aircraft activities will increase the potential for the introduction of invasive species, including the brown tree snake, which the DEIS indicates has already been detected on Saipan (p. 4-60). The DEIS states that the U.S. Air Force will commit to implementing 100 percent inspection of all outgoing aircraft from Guam for the brown tree snake, and that redundant inspections "will be" conducted on Saipan (p. 4-60, line 37). On page 4-61, the DEIS states that redundant inspection "could be" conducted on Saipan during project development and training activities (line 37). The DEIS does not discuss the potential for other invasive species to be introduced on Saipan or Tinian from the project. According to the U.S. Fish and Wildlife Service (USFWS), other invasive species of concern in the CNMI are the little fire ant, the greenhouse frog, and the coconut rhinoceros beetle.

Preferred Alternative 1 would remove 14.3 acres of forest, primarily for the east parking apron and ramp and the bulk fuel storage (p. 4-59). The maintenance facility will result in removal of just under an acre. Based on Figure 2.3-6, if commercial lodging is utilized for billeting and the BEAR site is not needed, space may be available for the fuel tanks and hydrant system at this location to avoid removal of up to 5 acres of forest. Additionally, based on Figure 2.3-5, it appears there could be non-forested space across the road from the proposed maintenance facility that could be utilized for this structure.

Recommendation: Clarify in the FEIS whether the Air Force will commit to redundant inspections on Saipan during project development and training activities, and identify whether there is sufficient capacity and infrastructure to perform these inspections or whether additional capacity is needed. Work with USFWS to obtain their concurrence on the biosecurity program.

Explore and discuss in the FEIS whether forest removal has been minimized by site planning, including the possible adjustments to facility locations mentioned above.

Additional Comments

- The DEIS states that portions of the Marianas Trench Marine National Monument are not within the Study Area but are to the north and south of the Study Area (p. 1-3, line 32). However, the DEIS also states that "the Mariana Islands Range Complex (MIRC) and the [Divert Activities] Study Area are the same geographical areas" (p. 1-10, line 30). We note that the MIRC FEIS states that "the MIRC and the [MIRC] Study Area are the same geographical areas" (MIRC FEIS, p. ES-1) and that "portions of the Marianas Trench Marine National Monument lie within the [MIRC] Study Area" (MIRC FEIS, p. ES-2). Clarify this discrepancy in the FEIS.
- The DEIS mentions "demolition activities" that would occur for Alternative 1 (p. 4-31) but demolition was not identified in the project description, and p. 4-88 states that Alternative 1 does not entail building demolition. Clarify this discrepancy in the FEIS.
- Table 1.5-1 states that no permit will be needed under the Clean Water Act, but that a stormwater general permit will be needed for construction activities. Such permits are issued pursuant to the Clean Water Act.